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AUTHOR Millar, Dan P.; Yerby, Janet
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ABSTRACT

A study explored the potential relationships between communication-relevant personal characteristics (listening ability, tolerance of ambiguity, interpersonal needs, and communication apprehension) and small group leadership. Thirty college students enrolled in a small group communication course completed a battery of instruments measuring each personal variable under study. They then selected themselves into six-person groups that remained intact for an entire semester. Each group was asked to discuss a complex topic using materials from real case studies. Twice during the semester, each group discussed some aspect of the topic in front of the entire class. In addition to their class work, the groups also met outside of class for further discussions. At the end of the semester, each group member was asked to evaluate the other members individually. This evaluation included a ranking of each person's contribution to the completion of tasks and to the group's social atmosphere. Regression analysis revealed a significant correlation between task and socioemotional leadership. Treating socioemotional rank as a predictor variable, communication apprehension appeared as the best predictor of task leadership, with lack of apprehension leading to behavior perceived by others as leadership. Few relationships appeared among the predictor variables and between the predictors and socioemotional leadership. (FL)

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REGRESSION ANALYSIS OF SELECTED PERSONAL CHARACTERISTICS AS PREDICTORS OF SMALL GROUP LEADERSHIP

Dan P. Millar
Indiana State University

Janet Yerby
Central Michigan University

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Janet Yerby

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Dan P. Millar (Ph.D. Michigan State University, 1969) is professor and chairperson of Communication at Indiana State University, Terre Haute, Indiana, 47809. Janet Yerby (Ph.D. Bowling Green State University, 1972) is assistant professor of speech at Central Michigan University, Mt. Pleasant, Michigan, 48859.

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Dan P. Millar
Indiana State University

Janet Yerby
Central Michigan University

This study examined the effect of communication-related personal variables upon the peer perception of leadership in task groups. The research asked, "Which personal characteristic variable, or combination of variables, would best predict the emergence of task and socio-emotional leadership?" The 30 subjects were students enrolled in a small group course. At the end of the semester members ranked every other member according to their importance to the group's task or socio-emotional performance. Prior to forming the task group, each person completed these measures: McCroskey's Communication Apprehension, Rydell's Tolerance of Ambiguity, Schutz's FIRO-B, Jones-Mohr Listening Test. The personal characteristics became the predictor variables in the regression computation with task rank and socio-emotional rank the criterion variables. The results revealed a significant correlation between task and socio-emotional leadership. Treating socio-emotional rank as a predictor variable, communication apprehension appeared as the best predictor of task leadership. Few relationships among the predictor variables and between the predictors and socio-emotional leadership appeared.

Leadership of groups has been and continues to be a central concern of researchers and philosophers from a variety of disciplines. Implicit in this diverse searching has been the identification and codification of qualities of individuals acting as precursors to leadership. These qualities have been found within the individual (trait and style), within the social setting (situation) or within the group performance (function) (Gouran, 1970). Cragan and Wright (1980) organize the contribution of communication research to small group knowledge into three categories: variables affecting group outcomes, variables descriptive of the process itself, and communication variables discovered in other inquiries relevant to small group interaction. This study is consistent with the later category -- the relationship of communication relevant to the understanding of small group leadership.

In his compendium on leadership Bass (1981) identifies eleven different definitions of the concept. Four definitions focus upon persuasion/influence of one person upon others; four definitions focus upon goal achievement; three definitions focus upon role differential and power. He concludes the explication of definitions by recommending that "it would seem reasonable to define leadership in terms of variables that account for the differentiation and maintenance of group roles (p. 16)." To be persuasive, to achieve group goals, to develop and maintain roles, seems to require the abilities to perceive relevant cues in the environment, to integrate those cues into a definition of the situation and to initiate actions which appropriately

respond to the situational definition.

Two personal qualities influencing the perception of cues from the environment are listening ability and the ability to tolerate ambiguity. An ability fundamental to the development of other communicative abilities is that which selects referential cues from the messages of others (Allen and Brown, 1976). Listening is such an ability. Johnson and Johnson (1975) argue that listening to others becomes the first step in understanding others; becomes a necessary skill for maintaining a group. As such listening affects the group member's task performance (selecting referential cues) and the group's relational climate (selecting emotional cues).

Tolerance of ambiguity is defined as the ability to accept situations which have alternate interpretations or outcomes, or the ability to feel not uncomfortable when facing a complex social issue (English and English, 1958). Groups often deal with complex issues. Groups in themselves can be complex social issues as the group, and its members, seek to define the relationships among the members. To accept ambiguous situations seems to require the ability to select cues which define the circumstances from various points of view. Those who lack such an ability might prematurely neglect important definitional cues in order to reduce the uncertainty resulting from diverse interpretations of the situation. Persons emerging as leaders in groups may be more likely to sustain ambiguity than others.

The ability to integrate the selected cues into a definition of the social situation appears influenced by the interpersonal needs the individual brings to the group setting (Schutz, 1961). What the individual wants from the group and can give to the group will guide

the definition the person ascribes to the group setting. In a sense the needs form a predisposition to behave in particular ways (Schutz, 1958). Leadership of a group, therefore, will flow from the combination of needs a individual brings to that group. To know those needs should provide a means to predict, directly, the emergence of leadership behaviors and, indirectly, the individual's definition of the social setting.

Initiation of actions responding to the situational definition may be constrained by a fear to communicate with, or in front of, others (McCroskey, 1976). Talking, one way of initiating action, has long been associated with the perception of leadership (McCroskey and Richmond, 1978). People who talk more have been perceived as more competent, more sociable and exerting more leadership. Constraining activity, or the reduction in the quantity of action, is seen as reduction in the quality of the action.

Leadership, based upon the Stogdill definition, can be viewed as a collection of abilities brought to bear singly or in combinations, which account for the differentiation and maintenance of group roles. The perception of relevant cues, affected by the abilities to listen and tolerate situations containing uncertainty, the integration of those cues into a definition of the situation, affected by the interpersonal needs of the individuals, and the initation of action based upon that definition, affected by the degree a person fears communicating with others, describe personal characteristics precusive of perceived small group leadership.

The overall question addressed by this study was: Which personal characteristics, or combination of characteristics, would best predict

the perception of leadership? Three specific questions were investigated to explore the general research question:

1. Are the communication relevant characteristics of listening ability, tolerance of ambiguity, interpersonal needs and communication apprehension related to each other?

2. Are the communication relevant characteristics of listening ability, tolerance of ambiguity, interpersonal needs and communication apprehension related to leadership?

3. Can the communication relevant characteristics of listening ability, tolerance of ambiguity, interpersonal needs and communication apprehension, singly or in combination, be useful predictors of small group leadership?

METHOD

Subjects

Thirty undergraduate students enrolled in a beginning course in small group communication comprised the sample. Sixteen women participated in the research and 14 men.

Variable Descriptions

Listening ability was assessed by the Jones-Mohr test distributed by University Associates. The test uses an audio-cassette and a test booklet to present the 30 items and the foils. Actors read the stem statement and the subjects select from one of four meanings for that statement displayed in the test booklet. The meanings are emotional so the test emphasizes the linguistic cues rather than message content. A sample item is:

"She's always in my way."
a. I wish I could avoid her.
b. I don't like her.
c. That makes me angry
d. I hate her.

A subjects score could range from a low of 0 to a high of 30.

Tolerance of Ambiguity was assessed using the 16-item true/false self-description developed by Rydell (Rydell and Rosen, 1966). Two items are: "I get pretty anxious when I'm in a social situation over which I have no control," and "A problem has little attraction for me if I don't think it has a solution." Each correct item receives a score of 1 with no score for missed items. A subjects score can range from 0 to 16.

Interpersonal needs were assessed using FIRO-B, an instrument developed by Schutz. He postulates that every individual has needs for Inclusion, Control and Affection. Inclusion is the need to establish and maintain satisfactory relations with other people with respect to interaction and association. Control is the need to establish and maintain satisfactory relations with others with respect to control and power. Affection is the need to establish and maintain satisfactory relations with other people with respect to love and affection. The instrument is comprised of 6 scales which index the person's expression of the need and wanting from others expressions of the need. FIRO-B cumulatively scores responses to 9 statements. An example of an expression of Inclusion is:

I try to be with people.
usually often sometimes occasionally rarely never

An example of a want of need-related Affection behavior form others is:

I like people to act close and personal with me.
usually often sometimes occasionally rarely never

Scores can range from 0 to 9 depending upon which statement response places the subject outside the predetermined range.

The 20-item Personal Report of Communication Apprehension - College assessed the subjects fear of communicating. Each item presents a

self-descriptive statement of behavior to which the subject can strongly agree or strongly disagree. There are five gradations of agreement with each gradation worth 1. Some of the items reverse the value of agreement. Two examples are:

> I look forward to an opportunity to speak in public.
>
> Conversing with people who hold positions of authority causes me to be fearful and tense.

The resulting total score can range from a low 20 to a high of 100.

Group leadership was divided into the traditional task and socio-emotional dimension. The subjects' task leadership was assessed by adding the rankings of peers when instructed to "rank-order, with 1 the most important, the other members of your group according to their contributions to the task." The subjects' socio-emotional leadership was assessed in the same manner. In 6-person groups a person's ranking could range from a high of 5 to a low of 25.

Procedures

During the first week of the semester each subject completed the Tolerance of Ambiguity test, FIRO-B scales, PRCA-CO statements and the Jones-Mohr listening test. At the end of the second week the subjects selected themselves into 6-person groups knowing these groups would remain together for the semester. The groups were asked to discuss a complex topic using materials supplied for case studies from Amoco and Dow corporations. The cases dealt with wilderness land use, federal regulation of business and local taxation. Groups met in and out of class to analyze the topics. Twice during the semester each group discussed some aspect of the issue in front of the class. These two sessions were instructor evaluated and critiqued. In the final week of

the semester, following the reporting of the groups' deliberations, each member was asked to evaluate every other member. Part of the evaluation required that the members be ranked according to their contributions to the task completion and social atmosphere. Written descriptions of the part played by each member accompanied the rankings.

Statistical Analysis

The first two research questions asked if the predictor variables were related, and if the predictor variables were related to the criterion variables. Twelve variables were submitted to product-moment correlation manipulation: gender, listening, express Inclusion, Control, Affection, want to receive Inclusion, Control Affection, Communication Apprehension, Task and Socio-Emotional leadership rankings.

The third question sought to determine which variables, or combinations, would best predict Socio-Emotional or Task leadership. All twelve variables were submitted to multiple regression analysis with the leadership rankings the criterion variables and the other variables the predictors.

RESULTS

Each variable can be described numerically. The description of the sample for each variable is reported in Table I. Notice that Tolerance

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TABLE I

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for Ambiguity mean score is below the mid-point for the total score. Express Control also falls below the mid-point of the range for the score. The desire to receive Affection scores the highest of the 6 FIRO scores. The total rankings of Socio-Emotional and Task

leadership are numerically comparable although the dispersion differs.

Variable Relationships

The extent to which the predictor variables are related to one another and to the criterion variables are reported in Table II.

TABLE II

Generally, few relationships appear between the variables under examination. Expressing Inclusion relates to wanting to be included ($r = .5055$, $p < .004$). The expression of Affection positively relates to expressing and wanting to receive Inclusion ($r = .4535$, $p < .012$ and $r = .3931$, $p < .032$) while negatively relating with the Tolerance of Ambiguity ($r = -.3897$, $p < .033$). The wanting of Affection relates to gender ($r = .3918$, $p < .032$), expression of Inclusion ($r = .5401$, $p < .002$) and wanting to be included ($r = .4204$, $p < .021$). The separate measures of interpersonal need, then, show some relationship among themselves. However, they show little relationship with the other predictor variables. Three variables, listening, express Control and want to receive Control, show no significant relationship to any other predictor variable.

Only one variable, Communication Apprehension, was significantly related to either criterion variable, Task rank ($r = .4331$, $p < .017$). A positive, though non-significant, relationship emerged between the two criterion variables ($r = .3398$, $p = < .066$). A negative, though non-significant, relationship appeared between the expression of Control and Task rank ($r = -.3105$, $p = < .095$).

Predictors of Leadership

With no well-developed theory to dictate the ordering of the predictor variables into the regression computation, the analysis proceeded in two stages: all the variables were entered ordered by their variable number followed by a step-wise analysis ordered by the variables' respective contribution to the total variance (R^2).

Table III reports the summary of the multiple regression with Socio-Emotional rank as the criterion variable. No significant relationship appears between the predictors and Socio-Emotional rank. The step-wise

TABLE III

regression with Socio-Emotional rank as the criterion is reported in Table IV. Expression of Inclusion emerges as the best predictor of Socio-Emotional rank, although the relationship is not significant

TABLE IV

(B = 4218, Std. error of B = .3701, F = 1.2988, p = <.264, Beta = .2105, Elasticity = .1374; constant B = 12.9663, Std. error of B = 2.0012).

Using Task rank as the criterion variable, all predictors were entered ordered only by their variable number. Table V reports the summary of

TABLE V

the multiple regression. No significant relationship appears. The results of the step-wise regression for Task rank appear in Table VI.

Communication Apprehension emerges as the only predictor of Task rank (B = .3089, Std. error of B = .1215, F = 6.465, p = < .017, Beta = .4331, Elasticity - 1.0406; constant B = -.6098, Std. error of B = 6.22295).

TABLE VI

The correlation matrix in Table II suggested a possible relationship between the two measures of leadership. This apparent relationship is consistent with an earlier study which found the two dimensions of leadership related also (Millar and Yerby, 1982). Using leaders of student organizations as subjects, a positive relationship was found between Task-Oriented leadership and Socio-Emotional leadership ($r = .7959$, $p < .01$) as measured by the Johnson Leadership Orientation instrument. Millar and Yerby treated the Socio-Emotional score as a predictor variable re-computing the multiple regression. In that instance, Socio-Emotional emerged as the best predictor of communication competence. Suspecting the relationship between the two criterion variables might be influencing the results in this study, a second step-wise multiple regression was performed with Socio-Emotional rank as a predictor variable. Communication Apprehension again emerged as the best, and only, significant predictor of Task rank (Table VII).

TABLE VII

However, Socio-Emotional rank now appears as the second best, although not significant, predictor.

DISCUSSION

The purpose of this study was to explore the potential relationships between communication-relevant personal characteristics -- listening ability, Tolerance of Ambiguity, interpersonal needs, Communication Apprehension -- and small group leadership. Three questions guided the investigation: (1) Are the communication-relevant characteristics of listening ability, Tolerance of Ambiguity, interpersonal needs and Communication Apprehension related to each other? (2) Are the communication-relevant characteristics of listening ability, Tolerance of Ambiguity, interpersonal needs and Communication Apprehension related to leadership? (3) Can communication-relevant characteristics of listening ability, Tolerance of Ambiguity, interpersonal needs and Communication Apprehension singly, or in combination, be useful predictors of small group leadership?

In examining the first question, few relationships were found among the personal characteristics. Of the 8 significant relationships uncovered, 6 involved the internal scores of FIRO-B: expression of Inclusion with wanting of Inclusion, expression of Affection with the expression and wanting of Inclusion, the wanting of Affection with the expression and wanting of Inclusion. Tolerance of Ambiguity negatively related to the expression of Affection; the less able the individual to tolerate uncertainty within a social setting the more likely the need to express Affection to others. Gender correlated with the desire to receive Affection from others. Apparently, for this set of subjects the females wanted others to behave toward them in an affectionate manner. Finally, three variables, listening ability, expression of and want to be controlled, did not relate to any other

personal characteristic. Half of the correlations involving listening were negative. Since listening regularly is described as the basis for relational development, the failure to find significant correlations seems an error in research methodology and/or instrument reliability and validity. The failure to find significant correlations involving Control may be a result of the negative connotations people have for "control" discussed in the context of human communication.

In examining the second question, only Communication Apprehension correlated with the measures of leadership -- Task rank. The nature of the groups and the type of task may explain the correlation. The groups were students in a discussion class. Although group members cooperated on the task in and away from the classroom, some discussions were observed. Two discussions were observed and evaluated. Members relatively free from apprehension may be more likely to speak in the "public" discussions. As such, they might be perceived as the more influential members. Examined from this point of view, the correlation between Communication Apprehension and Task leadership concurs with Porter's (1981) analysis of apprehension. He argues apprehension may be a subset of a larger concept -- fear of evaluation -- rather than a fear of communication. In a sense, the individual fears the consequences of communicating rather than the act of communicating itself. Given the evaluation component of the course, the nature of the groups and their tasks, the Porter analysis seems applicable here. Other variables applied in other circumstances would have to be studied, however, before abandoning Communication Apprehension to a minor variable within the array of variables relevant when a person faces evaluation.

The next strongest relationship involving Task leadership occurred

with the other criterion variable, Socio-Emotional rank. Peer perception of leadership, resulting in a correlation between the two rankings, suggests a perceiver may generalize activity in one dimension of leadership to the other dimension. Or, group members active in one dimension may simultaneously be active in the other. Perhaps in student groups where no positional power exists, the people perceived as leaders are those best able to influence the group by working through the people of the group. In a sense, the nature of the group and the implicit equality relationship between members may encourage a sensitivity to the work to be done and a sensitivity to the relationships needed to enable the work to be done. Or, finally, the traditional conception of leadership as a dual-natured group phenomenon may be faulty. Therefore, measures based upon that conceptualization will be faulty also.

None of the personal characteristics related to the measure of Socio-Emotional leadership. The correlations are so low in the cases of Tolerance of Ambiguity, wanting Inclusion and expressing Control that the a priori assumption of communication-relevance is questionable.

With the exception of Communication Apprehension relating to Task leadership, the answer to the second question is that the personal characteristics of the study do not relate to small, task group leadership.

In examining the third question, only Communication Apprehension emerged as predictive of leadership, and then only task leadership. The relationship between apprehension and leadership is consistent with previous studies of small groups. The apprehensive will be viewed as less credible, less participative, less likely to be leaders, more tense (McCroskey, 1977).

The lack of relationship between interpersonal needs and socio-emotional leadership appears incongruent with previous research and theory. The person needing to express and receive Inclusion and Affection ought to emerge as a perceived socio-emotional leader, a person with the relational climate of the group. For, if the climate deteriorates, the individual needs to give and receive Inclusion and Affection could not be met.

The lack of relationship between Communication Apprehension and Socio-Emotional leadership appears incongruent with previous research and theory. Interpersonal literature has consistently argued that the overt expression of feelings is risky. If so, then overcoming the "risk" and expressing the feelings ought to flow from overcoming the "fear" to communicate those feelings. The appearance of the Socio-Emotional rank as the second predictor in the step-wise regression may recommend an indirect connection between apprehension and socio-emotional leadership rather than a direct one.

Only Communication Apprehension emerges as a predictor of leadership in this study.

CONCLUSION

The sample is too small and the number of variables too large to draw major conclusions from this study. Subsequent work has involved over 100 subjects and has used videotape to capture the behaviors of the group members. Actual behavior can then be related to pencil-behavior reports of self-perception.

However, the investigation does reinforce the connection between Communication Apprehension and leadership of small groups consisting of students. Lack of apprehension is likely to lead to behaving in

ways perceived as leadership. The step-wise regression exposed Communication Apprehension as the only predictor of task leadership, accounting for approximately 19% of the variability.

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TABLE I

VARIABLE DESCRIPTION

Variable	Mean	Standard Deviation
Tolerance of Ambiguity	6.90	2.23
Listening	18.20	3.39
Express Inclusion	4.90	2.32
Want Inclusion	4.20	2.89
Express Control	2.97	2.48
Want Control	3.70	1.55
Express Affection	4.27	2.74
Want Affection	5.70	2.91
Communication Apprehension	50.53	8.52
Socio-emotional Rank	15.03	4.65
Task Rank	15.00	6.08

TABLE II

CORRELATION MATRIX

	G	AM	LS	IX	IY	CX	CY	AX	AY	CA	SR	TR
G												
AM	.048											
LS	-.144	-.210										
IX	.309	-.008	-.198									
IY	.206	-.055	-.000	.505*								
CX	.342	-.1870	.013	.017	.288							
CY	-.183	-.078	-.157	.286	.197	.086						
AX	.216	-.389*	-.050	.453*	.393*	.229	-.029					
AY	.391*	-.126	.072	.540*	.420*	.060	.237	.351				
CA	-.004	.260	.230	.105	-.151	-.318	.048	.011	.323			
SR	.079	.000	-.011	.210	.002	.003	-.088	-.127	.125	.113		
TR	-.212	.060	.173	.109	.062	-.310	.102	.006	-.017	.433*	.339	

$p < .05$

TABLE III

SUMMARY OF MULTIPLE REGRESSION - SER

Variable	F to Enter or Remove	Signif-icance	R	R^2	r	Overall F	Signif-icance
G	.2447	.626	.0797	.0063	.0797	.5612	.825
CA	.6355	.435	.1389	.0192	.1133		
CY	1.9370	.180	.1609	.0259	-.0889		
AX	3.1969	.090	.2193	.0481	-.1277		
LS	.2427	.628	.2245	.0504	-.0113		
IY	.0342	.855	.2410	.0581	.0020		
CX	.7306	.403	.2489	.0619	.0030		
AM	.8676	.363	.3005	.0903	.0003		
AY	.0695	.795	.3298	.1087	.1252		
IX	2.9355	.103	.4775	.2280	.2105		

TABLE IV

SUMMARY OF STEP-WISE MULTIPLE REGRESSION - SER

Variable	F to Enter or Remove	Signif-icance	R	R^2	r	Overall F	Signif-icance
IX	1.2988	.264	.2105	.0443	.2105	1.2988	.264
AX	1.8960	.180	.3271	.1070	-.1276	1.6182	.217
CY	1.2992	.265	.3867	.1495	-.0889	1.5238	.232
AM	.7529	.394	.4176	.1744	.0003	1.3202	.290
CA	.5260	.475	.4383	.1921	.1133	1.1414	.366
CX	.5094	.483	.4578	.2096	.0038	1.0166	.439
LS	.2131	.649	.4660	.2172	-.0113	.8720	.543
G	.1997	.659	.4738	.2245	.0797	.7602	.640
AY	.0528	.820	.4760	.2266	.1252	.6511	.741
IY	.0341	.855	.4775	.2281	.0020	.5611	.825

TABLE V

SUMMARY OF MULTIPLE REGRESSION - TR

Variable	F to Enter or Remove	Signif-icance	R	R^2	r	Overall F	Signif-icance
G	.0435	.837	.2123	.0451	-.2123	1.0212	.462
CA	4.1771	.055	.4816	.2319	.4331		
CY	.1458	.707	.4834	.2337	.1020		
AX	.0022	.962	.4858	.2360	.0062		
LS	.1888	.669	.4886	.2388	.1702		
IY	1.0189	.325	.5074	.2575	.0627		
CX	.8314	.373	.5331	.2842	-.3105		
AM	.2291	.638	.5342	.2854	.0609		
AY	1.8161	.194	.5826	.3395	-.0175		
IX	.2942	.594	.5912	.3495	.1097		

TABLE VI

SUMMARY OF STEP-WISE MULTIPLE REGRESSION - TR

Variable	F to Enter or Remove	Signif-icance	R	R^2	r	Overall F	Signif-icance
CA	6.4653	.017*	.4331	.1875	.4331	6.4653	.017
G	1.5580	.223	.4815	.2319	-.2123	4.0761	.028*
IY	.8497	.365	.5061	.2562	.0627	2.9855	.049
AY	1.0681	.311	.5354	.2866	-.0175	2.5119	.067
CX	.9263	.345	.5596	.3132	-.3105	2.1889	.089
AM	.4841	.494	.5721	.3273	.0609	1.8655	.130
IX	.3813	.543	.5820	.3388	.1097	1.6105	.185
LS	.1479	.704	.5860	.3434	.1702	1.3731	.264
CY	.1864	.671	.59119	.3495	.1021	1.1939	.351

*$p < .05$

TABLE VII

SUMMARY OF STEP-WISE MULTIPLE REGRESSION - TR (SER as predictor)

Variable	F to Enter or Remove	Signif-icance	R	R^2	r	Overall F	Signif-icance
CA	6.4653	.017*	.4331	.1875	.4331	6.4653	.017
SER	3.1800	.086	.5227	.2731	.3397	5.0743	.013
AY	1.4328	.242	.5578	.3111	-.0175	3.9147	.020
IY	2.0275	.167	.6023	.3628	.0672	3.5590	.020
CX	1.8904	.182	.6398	.4093	-.3105	3.3267	.020
CY	.9209	.347	.6573	.4321	.1020	2.9166	.029
AX	.7094	.409	.6707	.4498	.0062	2.5697	.043
LS	.8885	.357	.6871	.4721	.1702	2.3482	.056
IX	.0612	.807	.6883	.4737	.1097	2.0007	.094

*$p < .05$